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BOEING



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SEATTLE, WASHINGTON

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CODE IDENT NO. 81205

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NUMBER	
TITLE FLIGHT ARTICLE MASS PROPERTIES REPORT FOR MINUTEMAN	
WING II COMPONENTS FOR MISSILES 653-687 (w)	
MODEL NO. WS-133A CONTRACT NO. AF04(694)-46 20 Asita 25-287052 ISSUE NO ISSUED TO	
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SUMMARY

This report contains mass property summaries of the Boeing components for a series of Operational Wing II Minuteman missiles. The serialized components included in the data for each missile are those committed to that particular missile during the course of production in Seattle and may not be the ones finally installed during missile assembly at Air Force Plant 77.

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1.0 INTRODUCTION

- 1.1 REFERENCES
- 1.1.1 BSD Exhibit 62-45, "Mass Properties Control Data for WS-133A", Dated 3 August 1962.
- 1.1.2 CCN 258 (BSD-63MSN-2597) to AFO4(647)-580 dated 5 October 1962.
- 1.1.3 Boeing Document D2-13943-2, "Flight Article Mass Properties Report for CTLI Installations."
- 1.1.4 Boeing Document D2-13944-501, "Flight Article Mass Properties Report for Missile 501 Components."
- 1.1.5 Boeing Document D2-13956-1 "Statistical Means and Dispersions for the Mass Properties of Boeing Components for the Wing II Operational Minuteman Missile March 1, 1963."
- 1.1.6 Boeing Document D2-13947-xxx "Air Force Plant 77 Flight Article Mass Properties Report for Missile xxx.
- 1.2 COMPONENT SERIAL NUMBERS

Component serial numbers appear on the data summary sheet for each missile. See pages 9 through 21.

1.3 DISCUSSION

This weight report for the Boeing components of a series of Operational Wing II Minuteman missiles is presented in accordance with section 3.1.1 of BSD Exhibit 62-45 (reference 1.1.1) as authorized by CCN 258 to AFO4(647)-580 (reference 1.1.2). Since the data are to be reported monthly, this report contains data for a series of Wing II missiles whose components were manufactured recently. The report includes actual mass properties for the major components assigned to each missile in the manufacturing records at Seattle. (These may not be the same components finally assembled together at Air Force Plant 77. See reference 1.1.6 for the final configuration). Mean mass properties are used for components other than the interstages, aft skirt, and base heat deflectors since the weights for these remaining items are small. Mean and dispersion back-up data for these items can be found in the latest quarterly means and dispersions report (reference 1.1.5).

The data presented in this report consist of (1) sectional summaries of the total Boeing weight responsibility for each missile covered by this report, (2) a sectional summary of the components whose mean weights are used in lieu of actual weights, (3) summary check lists by missile section, (4) a list of Engineering Change Proposals incorporated on the hardware included in this report, and (5) actual weighing records for the interstages, the aft skirt, and the base heat deflectors.

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The actual weighing records for the major components covered by this report can be found in section 6 (pages 25 through 72). In order to limit the size of this report, weighing diagrams and inventory lists have been omitted for all but the first unit of each interstage and skirt since the components have all been weighed in the "complete" condition. However, these records are on file and can be supplied if necessary. The change records found in section 6 are listed in order by serial number for each major component in order to assist in cross referencing the components in case of substitution at a later date.

This report contains no weight and balance summary data for missile 658 even though the latest schedule lists this as a Wing II missile. However, when the components were manufactured, this position was scheduled for a Wing I missile so no Wing II components were made. Components for this missile will be reallocated at Air Force Plant 77 from those on hand there.

1.4 CTLI PROVISIONS

The only CTLI provisions incorporated into this report are those components which are installed on every operational missile. The mass properties data for CTLI components which will be added at Vandenberg Air Force Base are reported in reference 1.1.3.

1.5 WEIGHING PROCEDURES

A description of the weighing procedures and an accuracy statement will be found in reference 1.1.4.

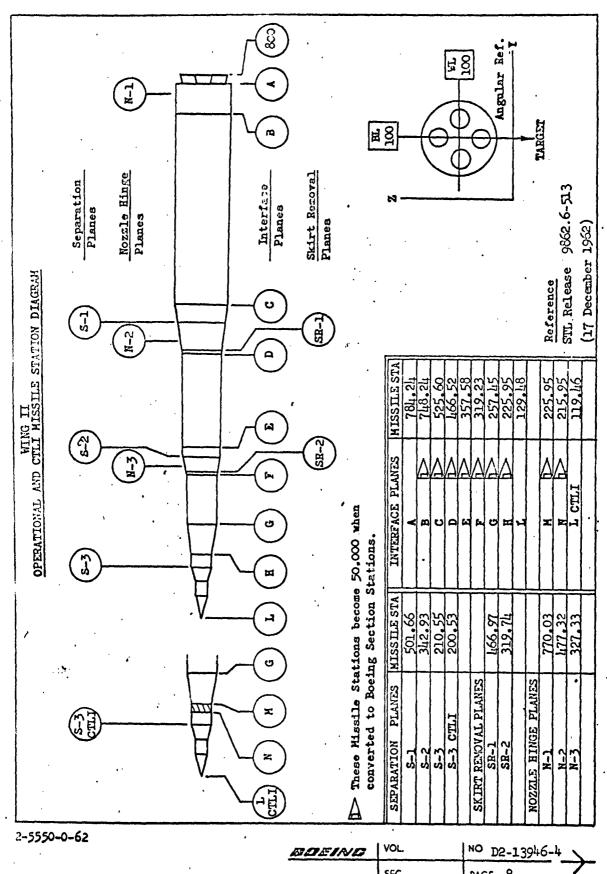
1.6 ENGINEERING CHANGE PROPOSAL (ECP) SUMMARY

See page 24 for a list of the ECP's incorporated on the Boeing components covered by this report. The ECP's listed are those not covered by the latest revision to "Model Specification for Guided Missile Main Assemblage, S-133-1000-0-1", Dated 25 October 1962.

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SEC. PAGE

3.2		MISSILE NO. 653 WEIGHT AND BALAN	CE SIBO	Λ F/V		REPORT NO.					
				ari *	. '	DATE					
,. 1	•	MAJOR COMPONENTS		,	mom + v			THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON OF THE PE	TNE	RTIA	
LINE	SEC	DECORTOMION		EXPENDED	TOTAL	CENTER	OF GRAV	/ITY	SLUG F	12x10-3	
1	S	DESCRIPTION	DATA	WEIGHT (LB)	WEIGHT (LB)	LONG.*	LAT.	VERT.	ROLL	PITCH	
1	41	RV Spacer		_\/_	رسد	۳۰۶۱۱۲۵۰۸	,un.	451170	لبدي		
	74	RV Spacor	613	 							
_2	-		Silo	ļ							
3	_		Aero								
4	39	CTLI Section									
5	<u> </u>		Silo	ļ							
6			Aero			80.94	100.00	100 00	0	0	
7	42	G&C Section		 	1.02	00.94	100.00	100.00			
8			Silo	ļ							
2	٠,-	~	Aero	ļ							
	44	3rd Stage Engine		1	18.60	97.33	106.53	111.49	<u> </u>	-003	
[11_		s/N 0000918	Silo	.43	<u> </u>	94.95	110.30	117.70	0	- 0	
12.			<u>Aero</u>	.80		94.95	110.30	117.70	Ŏ		
13	1		Base	.20		131:00	100.00	100.00	0	0	
14	45			 	119.45	59.99	100.18	101.48	.010	.006	
15		(Fwd)	Silo	ļ							
16	<u> </u>	S/N 0000915	Aero	0.05			100	100 /=			
17_	-		Base	2.81		57.33	107.51	108.65	0	<u> </u>	
18	 	<u>-</u>	- Silo	1.92		61.11	101.01	101.74	0	0	
19		Jettisoned	Aero	3.40		61.59	100.27	100.47	0	0	
20		Portion	Base	- 25 2-					220	005	
27	ļ.,	<u> </u>	- Jett	86.81		61.99	99.02	100.65	.008	.005	
22	45	Interstage 2-3			63.58	80.64	99.30	101.39	.006	.003	
23	-	(Aft)	Silo	1.18		80.97	100.50	100.84	0	0	
24	ــِـا		Aero	1.18		82.00	103.07	105.23	0	:0	
25	146	2nd Stage Engine			32.53	145.65	105.89	110.24	.001	.018	
26	├	S/N 0000918	Silo	.63	<u> </u>	99.62	112.30	121.20	0	0	
27_	 	<u> </u>	Acro	.53		99.62	112.30	121.20	0	0	
28	 		Base	1.80		189.25	100.00	100.00	0	0	
29_	42			!	242.56	67.44	99.61	101.54	.032	.022	
50_	 	(Fwd)	Silo	ļ			<u> </u>				
127	<u> </u>	S/N 0000915	Aero								
32	 		Base	3.10		64.06	112.35	115.53	0	0	
33	 		- Silo	4.21		66,61	100.32	100.55	.001	0	
34	ـ	Jettisoned	_Aero_	7.56		66.87	100.10	100.17	.001	.001	
35	ـ	Portion	Base	5.40		67.09	100.27	100.76	.001	0	
36	 		- Jett	197.79		68.97			.028	.018	
37	47				128.74		100.76		.024	.014	
38 39	-	(Aft)	Silo	3.37 3.41		96.69			.001	0	
139	نيبه		Aero	3.41	ļ <u>.</u>	97.71	101.98	103.41	.001	0	
	148	let Stage Engine		ļ	63.08	223.60			.004	.115	
41	-	s/N 0000918	Silo	2.89	ļ	190.41		120.45	0	004	
42	┼	 	Aero	1.04		136.60	117.20	129.70	0	.001	
43		<u> </u>	Base	4.80		309.40		100.00	_ 0	0	
		Skirt			290.27	68.46	100.74	101.07	.064	.039	
45	-	S/N 0000198	Silo	17.57		68.02	100.35	100.60	.004	.002	
46			Aero	3.33		67.80	100.64	101.12	.001	0	
42			Base	40.60		69.10	101.70	102.76	.009	.006	
48		MISSILE	<u> </u>		959.83						
49			Silo	32.20							
50			Aero	21.25							
51			Base	58.71							
52	1		Jett	284.60		1					

^{**} Bocing Section Stations (See Missile Station Diagram)
2-5550-0-58
** Serial numbers shown under section in description column.

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3.		MISSILE NO. 655 WEIGHT AND DALAN				REPORT DATE	, NO.			
LDIE	ខ្ល	MAJOR COMPONENTS DESCRIPTION	DATA	000199 EXPENDED WEIGHT	TOTAL WEIGHT	CENTED OF COAL		ITY		RTIA r2×10-3
[7]	S	DESCRIPTION	DALK	(LB)	(LB)	LONG.*	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacor								;
2			Silo							
3			Aero							
4	39	CTLI Section								
5	-		Silo							
6	1.0	020 0 11	Aero		1.02	80.94	100.00	100.00	0	0
8	146	G&C Section	043.		1.02	<u></u>	100.00	100.00		
9	-		Silo Aero							
10	11.11	3rd Stage Engine	Aero		18.52	97.17	106.56	111.54	0	.003
拉		A CONTRACTOR	Silo	.43	10.76	94.95	110.30	117.70	0	0
laz.	1		Aero	.80		94.95	110.30	117.70	0	0
13			Base	.20		131:00	100.00	100.00	Ô	ō
14	45	Interstage 2-3			119.84	59.83	100.30	101.46	.010	.006
15		(Fwd)	Silo							
16			Aero							
17			Base	2.81		57 • 33	107.51	108.65	0	0
18	_	[- Silo	1.92		61.11	101.01	101.74	0	0
19		Jettisoned	Aero	3.40		61.59	100.27	100.47	0	0
20		Portion	Base							
21	 		- Jett	87.20		61.75	99.18	100.62	.008	.005
	45	Interstage 2-3		 	63.84	80.64	99.30	101.39	.006	.003
23	-	(Aft)	<u> 5110 </u>	1.18		80.97	100.50	100.84	<u> </u>	<u> </u>
-	1.6	2nd CA Franks	Aero	1.18		82.00	103.07	105.23	0	0
25 26	140	2nd Stage Engine	Silo	(2)	32.34	145.38	105.92	110.30	.001	.018
27	 			.63		99.62 99.62	112.30	121.20	<u> </u>	~~~
28	 		Acro Base	1.80		189.25	112.30	121.20	0	0
29	47	Interstage 1-2	Dase	1.00	243.41	67.48	99.60	100.00	0	0
30	1	(Fwd)	Silo	 	<u> </u>	01.70	99.00	701.43	032_	.022
31		1.2.1.2	Aero	1			·			
32			Base	3.10		64.06	112.35	115.53	0	0
33			- Silo	4,21		66.61	100.32	100.55	.001	Ö
34		Jettisoned	Aero	7.56		66.87	100.10	100.17	.001	.001
35	_	Portion	Base	5.40		67.09	100.27	100.76	.001	0
36			- Jett	198.64		69.02	98.71	100.83	.028	.018
37	47	Interstage 1-2		<u> </u>	129.24	96.61	100.76	99.76	.024	.014
38	-	(Aft)	Silo	3.37 3.41		96.69	100.34	100.59	.001	0
39		3 -+ C+ P	Aero	3.41	75.5	97.71	101.98	103.41	.001	0
41	140	lot Stage Engine		0.00	63.18	223.75	110.30	117.48	.004	.115
42	-		Silo	2.89		190.41	111.84	120.45	0	.004
43	1-		Aero Base	1.04		136.60	117.20	129.70	0	.001
	40	Skirt	ಗಿದ್ದಾರ	4.00	289.97	309.40 68.48		100.00	0	0 0
45	+-2		Silo	17.57	<u> </u>	્રે.02		101.01	.064 .004	.039
46			Aero	3.33		67.80	100.64	101.12	.004	.002
42			Base	40.60		69.10		102.76	.009	.006
48		MISSILE			961.36					
49	1		Silo	32.20						
50	_		Aero	21.25						
51	_		Base	58.71					_	
52	<u> </u>		Jett	285.84						

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* Boeing Section Stations (See Missile Station Diagram)
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SEC.

3.3	-	MISSILE NO. 660 WEIGHT AND BALAN MAJOR COMPONENTS				REPORT DATE	No.	المنظم المنظ		
LINE	SEC.	DESCRIPTION		EXPENDED WEIGHT	TOTAL WEIGHT	·	OF GRA	/ITY	INE SLUG F	RTIA T2x10-3
12	_			(LB)	(LB)	LONG.*	LAT.	VERT.	ROLL	PITCH
	41	RV Spacor								
2	_		Silo							
13	-		Aero							
5	22	CTLI Section		ļ						
6	-		Silo	ļ						
12	42	G&C Section	Aero		1.02	80.94	100.00	100.00	0	0
8	76.	OGO DECCION	Silo		1.02		100.00	100.00		
9	-		Aero							
	44	3rd Stage Engine			18.65	97.43	106.52	111.46	0	.003
11			Silo	.43		94.95	110.30	117.70	0	0
12			Aero	.80		94.95	110.30	117.70	0	0
13			Base	.20		131:00	100.00	100.00	0	0
14	45				119.72	59.93	100.23	101.52	.010	.006
15	<u> </u>	(Fwd)	Silo							
16	_		Aero							
12	ļ		Base	2.81		57.33	107.51	108.65	0	0
18	├	<u>-</u>	- Silo	1.92		61.11	101.01	101.74	0	0
130	├	Jettisoned	Aero	3.40		61.59	100.27	100.47		0
20	├	Portion	Base	05.00		72 00	00.00	300 63	200	
21	1,0	7-1	- Jett	87.08	60.776	61.90	99.08	100.71	.008	.005
22	142	Interstage 2-3 (Aft)	C43 -	3.30	63.76	80.64	99.30	101.39	.006	.003
21+	 	- ALEZ	<u> 5110</u>	1.18		80.97 82.00	100.50	100.84	0	0
25	46	2nd Stage Engine	_Aero_	1.10	32.52	145.64	103.07	105.23	.001	.018
26	130	THE THE PART THE	Silo	.63	32.72	99.62	112.30	121.20	0	0
27			Aero	.53		99.62	112.30	121.20	0	10
128			Base	1.80		189.25	100.00	100.00	0	0
129	47	Interstage 1-2	1		244.20	67.59	99.49	101.42	.032	.022
30		(Fwd)	Silo							
31			Aero							
32	L		Base	3.10		64.06	112.35	115.53	0	0
33	├		- Silo	4.21		66,61	100.32	100.55	.001	0
34		Jettisoned	_Aero_	7.56		66.87	100.10	100.17	.001	.001
35	┼	Portion	Base	5.40		67.09	100.27	100.76	.001	0
36	47		- Jett	199.43	100.70	69.15	98.57 100.76	100.83	.028	.018
38	+	Interstage 1-2 (Aft)	Silo	2 27	129.70			99.76	.024	.014
39	1	1/17.0/	Aero	3.37 3.41		96.69 97.71	100.34		.001	0
	48	1st Stage Engine	AULU	1.74	63.13		110.31	103.41 117.50	.001	.115
41	L		Silo	2.89	~>>+>	190.41	111.84	120.45	0	.004
42			Aero	1.04		136.60		129.70	Ö	.001
43			Base	4.80		309.40	100.00	100.00	0	0
44	49	Skirt			291.12	68.49	100.96	100.98	.064	.039
45	-		Silo	17.57		68.02	100.35	100.60	.004	.002
115			_Aero_	3.33		67.80	100.64	101.12	.001	0
12	-	Manager	Base	40.60		69.10		102.76	.009	.006
48		MISSILE			963.82					
49	-	·	Silo	32.20						
50	+-		_Aero_	21.25						
51	-	· · · · · · · · · · · · · · · · · · ·	Base	58.71						
52	1		Jett	286.51						L

* Bocing Section Stations (See Missile Station Diagram)
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3.1	4	MISSILE NO. 662 WEIGHT AND BALAN	ICE SUMM				. NO.			
E	1.:	MAJOR COMPONENTS	5/N	EXPENDED	TOTAL	DATE			INE	RTIA
LINE	SEC.	DESCRIPTION	DATA	WEIGHT	WEIGHT		R OF GRAV			r2×10-3
-	<u></u>		·	(L3)	(IB)	LONG.*	LAT.	VERT.	ROLL	PITCH
누	41	RV Spacer								
3			Silo	ļ						
17	30	CTLI Section	Aero							
5	25.	0101 P46 6101	Silo							
6			Aero							
7	42	G&C Section			1.02	80.94	100.00	100.00	0	0
8			Silo							
2	<u> </u>		Aero							
10	144	3rd Stage Engine			18.60	97.33	106.53	111.49		-003
11	-	S/N 0000919	Silo	.43		94.95	110.30	117.70	0	
12	 		Aero Base	.80		94.95	110.30	117.70	0	0
끊	45	Interstage 2-3	Dase	.20	119.27	131:00 59:93	100.21	101.48	.010	.006
15	1	(Fwd)	Silo	 	112.51		100.21	4040-10		
16		1	Aero				·············			
17			Base	2.81		57.33	107.51	108.65	0	[†] O
18	<u> </u>		- Silo	1.92		61.11	101.01	101.74	0	0
19	<u> </u>	Jettisoned	Aero	3.40		61.59	100.27	100.47	0	0
20	┼	Portion	Base							
32	1.5		- Jett	86.63	(2.1.6	> 61.90	99.05	100.65	.008	.005
	45	Interstage 2-3 (Aft)	C43 a	1 70	63,46	80.64	99.30	101.39	.006	.003
23.	 	- With	Silo Aero	1.18		80.97	100.50 103.07	100.84 105.23		0
25	46	2nd Stage Engine	Aero	1.10	32,31	145.33	105.93	110.31	.001	.018
26		S/N 0000917	Silo	.63		99.62	112.30	121.20	0	0
27			Aero	.53		99.62	112.30	121.20	ŏ	Ö
123	_		Base	1.80		189.25	100.00	100.00	0	. 0
129.	42	Interstage 1-2			242.84	67.44	99.56	101.65	.032	.022
30	-	(Fwd)	Silo				·			
31		S/N 0000917	_Aero_							
32 33	-		Base	3.10		64.06	112.35	115.53	0	
34	1	Jettisoned	- Silo Aero	4.21 7.56		66.61 66.87	100.32	100.55	.001	.001
35.		Portion	Base	5.40		67.09	100.27	100.76	.001	0
136		L	- Jett	198.07		68.97	98.65	101.11	.028	.018
37	42	Interstage 1-2			128.91	96.61	100.76	99.76	.024	.014
38		(Aft)	Silo	3.37 3.41		96.69	100.34	100.59	.001	0
39	1.0	2.4 (4. 22 :	Aero	3.41		97,71	101.98		.001	0
	140	lot Stage Engine		0.00	63.16				.004	.115
41	+-	S/N 0000917	Silo	2.89	 	190.41	111.84	120.45	<u> </u>	.004
43			Aero Base	1.04	 	136.60 309.40	117.20	129.70	9	.001
		Skirt	- 2456	 	285.12			100.00	.064	.039
45		S/N 0000201	Silo	17.57		68.02	100.35	100.60	.004	.002
			Aero	3,33		67.80	100.64	101.12	.001	0
42	1-	<u> </u>	Base	40.60		69.10		102.76	.009	.006
48		MISSILE		 	954.69					
49			Silo	32.20	ļ		<u> </u>		ļ	ļ
50	+-	······································	Aero	21.25	 	ļ			 	
51. 52	-		Base	58.71	ļ				ļ	ļ
175		Bocing Section St	Jett	284.70	L	<u> </u>	L		<u> </u>	l

* Bocing Section Stations (See Missile Station Diagram)
2-5550-0-58

^{**} Serial numbers of major components shown under section of description column. SEC. PAGE 12

* Bocing Section Stations (See Missile Station Diagram)
2-5550-0-58

** Aft Skirt S/N 0000202

** Aft Skirt S/N 0000202

| SEC. | PAGE 13

21.25

58.71

Aero

Base

50

51

ı

3		MISSILE NO. 669 WEIGHT AND RALAN MAJOR COMPONENTS	ICE SUMM	ar y 000202**		REPORT NO.				
LDIE	SEC.	DESCRIPTION	DATA	EXPENDED WEIGHT	TOTAL WEIGHT		OF GRA	VITY		RITA rex10-3
171		DESCRIPTION	DATA	(LB)	(LB)	LONG.*	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2			Silo							
3	-		Acro							
4	39	CTLI Section	C43 -							
5			Silo	ļ						
7	42	G&C Section	Aero		1.02	80.94	100.00	100.00	0	0
8	76	Cao Dec Con	Silo				200100	200:00		
3		····	Aero							
10	44	3rd Stage Engine			18.69	97.50	106.50	111.44	0	.003
11			Silo	.43		94.95	110.30	117.70	0	0
12			Aero	.80		94.95	110.30	117.70	0	0
113			Base	.20		131:00	100.00	100.00	c	0,
	45	Interstage 2-3		ļ	119.57	59.80	100.25	101.42	.010	.006
15		(Fwd)	Silo	ļ						
16			Aero	<u></u>				120 25		
17			Base	2.81		57.33	107.51	108.65	0	0
18			- Silo	1.92		61.11	101.01	101.74	0	0
19		Jettisoned	<u>Aero</u>	3,40		61.59	100.27	100.47	00	
120		Portion	<u>Base</u>	04 02		61 70	00.10	300 56	.008	
21	1.5	Tutanatana 2.7	- Jett	86.93	63.66	61.72 80.64	99.10	100.56		•005
22	72	Interstage 2-3 (Aft)	Silo	1.18	03.00	80.97		101.39	.006	.003
24	-	1	Aero	1.18		82.00	100.50 103.07	105.23	0	- 8
25	46	2nd Stage Engine	Kero	1.10	32.27	145.28	105.94	110.33	.001	.018
26	132	THE TOTAL STREET	Silo	.63)L • 6= 1	99.62	112.30	121.20	0	0
27			Aero	•53		99.62	112.30	121.20	Ö	Ö
7.8			Base	1.80		189.25	100.00	100.00	Ö	ō
29	42	Interstage 1-2			244.01	67.74	99.56	101.38	.032	.022
30		(Fwd)	Silo							
31			Aero							
32	_		Base	3.10		64.06	112.35	115.53	. 0	0
133	_		- Silo	4.21		66,61	100.32	100.55	.001	0
34	↓	Jettisoned	_Aero_	7.56		66.87	100.10	100.17	.001	.001
35	-	Portion	Base	5.40		67.09	100.27	100.76	.001	0
136	1.0	7	- Jett	1.99.24	700 55	69.33			.028	.018
38	12.	Interstage 1-2	047 -	2 000	129.59	90.61	100.76		.024	.014
39	 -	(Aft)	Silo	3.37 3.41		96.69		100.59	.001	0
		let Stage Engine	Aero	3.44	63.74	97,71 224,59	101.98	103.41	.001	- 0
41	1.8	TO A CONG THE THE	Silo	2.89	03.74	190.41	110.21 111.84	117.33 120.45	.004	.115
42			Aero	1.04		136.60		129.70	0	.004 .001
43			Base	4.80		309.40		100.00	0	0
	49	Skirt		1	288.72	68.47		101.16	.064	.039
45			Silo	17.57		68.02		100.60	.004	.002
146			Aero	3,33		67.80	100.64	101.12	.001	0 ,
1.2			Base	140.60		69.10	101.70	102.76	.009	.006
48	-	MISSILE			961.27					
49	-		Silo	32.20						
50	 	·	Aero	21.25						
51	-		Base	58.71						
52		Pantas Cantina Ct	Jett	286.17	43 - 61					

* Bocing Section Stations (See Missile Station Diagram) 2-5550-0-58

** Aft Skirt S/N 0000203

Į.

ĵ.'		MISSILE NO. 674 WEIGHT AND PALAN	CE SUMM	ARY			NO.			
		MAJOR COMPONENTS	S/N 00	<u> </u>		DATE		SENTENCE PROFESSION NO.	MANAGEMENT THE	1777 P 18 T 18
LLYE	SEC.	1		EXPENDED	TOTAL	CENTER	OF GRAV	/ITY	INE	RTIA T ² x10-3
LI	SE	DESCRIPTION	DATA	WEIGHT (LB)	WEIGHT (LB)	LONG.*	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer	**************************************							
2	**	AV DDACGI	Silo							
f≈ 3	-		Aero							
_	30	CTLI Section	ACTO							
5	ادر	V101 000 01011	Silo		 					
6			Aero							
7	42	G&C Section			1.02	80.94	100.00	100.00	Q	. 0
8		3333	Silo							
9			Aero							
	44	3rd Stage Engine			18.64	97.41	106.52	111,47	0_	.003
11			Silo	.43		94.95	110.30	117.70	0	0
12			Aero	.80		94.95	110.30	117.70	0	0
ተ ኊ_ 1 3			Base	.20		131:00	100.00	100.00	C.	0
	45	Interstage 2-3			119.24	59.97	100.22	101.50	.010	.006
15		(Fwd)	Silo							
16			Aero							
17			Base	2.81		57.33	107.51	108.65	0	0
18		r	- Silo	1.92		61.11	101.01	101.74	0	0
19		Jettisoned	Aero	3.40		61.59	100.27	100.47	0	0
20		Portion	Base							
21		L	- Jett	86.60		61.97	99.07	100.67	.008	.005
22	45	Interstage 2-3			63.44	80.64	99.30	101.39	.006	.003
23.		(Aft)	Silo	1.18	5	80.97	100.50	100.84	0	0
24	_		Aero	1.18		82.00	103.07	105.23	0	0
25.	46	2nd Stage Engine			32.52	145.64	105.89	110.25	.001	.018
26			Silo	63_		99.62	112.30	121.20	0	0
27			Acro	.53	ļ	99.62	112.30	121.20	0	0
-13			Base	1.80		189.25	100.00	100.00	0	0
		Interstage 1-2		ļ	243.47	67.35	99.57	101.50	.032	.022
<u> 30</u>	 	(Fwd)	Silo		 					
37			Aero	 						
32		 	Base	3.10	ļ	64.06	112.35	115.53	0	
33			- S110	4.21		66.61	100.32	100.55	.001	0
34		Jettisoned	_Aero_	7.56	ļ	66.87	100.10	100.17	-001	001_
35		Portion	Base	5.40 198.70	 	67.09	100.27	100.76	.001	0
36 32		Interest	- Jett	1250.10	120 2B	68.85			.028	.018
27 38		Interstage 1-2	643-	2 27	129.28			99.76	.024	.014
<u> 20</u> 39	+-	(Aft)	Silo	3.41	 	96.69 97.71	100.34		.001	0
		lot Stage Engine	Aero	1-3.47	63.25		101.98	103.41	.001	.115
41		TO C O COK O THINTIE	Silo	2.89	1 03.63	190.41		120.45	0_	.004
42		 	Aero	1.04	 	136.60	117.20	129.70	0	.001
43			Base	4.80	 	309.40	100.00	100.00	0	
		Skirt	2,036	+	287.37		100.00	101.12	.064	.039
45	+ 12	~	Silo	17.57	E01.31	68.02	100.35	100.60	.004	.002
1,6	1		Aero	3.33	 	67.80		101.12	.001	0
12			Base	40.60	 	69.10		102.76	:009	.006
48		MISSILE		1	958.23					
49			Silo	32.20	1					
50		····	Aero.	21.25			1		 	
51			Base	58.71	 	 	 			
52			Jett	285.30	 	 	 	 	 	1

* Boeing Section Stations (See Missile Station Diagram)
2-5;50-0-58
** Art Skirt S/N 0000919

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3.8		MISSILE NO. 676 WEIGHT AND BALAN	ice summ	ARY			. NO.				
LINE	នួ	MAJOR COMPONENTS DESCRIPTION	DATA	EXPENDED WEIGHT	TOTAL WEIGHT	DATE CENTER	R OF GRA	YTIV	INERTIA SLUG FT2x10-3		
	'n			(LB)	(LB)	LONG.*	LAT.	VERT.	ROLL	PITCH	
	41	RV Spacor							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
2			Silo								
_3			Aero								
	39	CTLI Section									
5			Silo	ļi						<u></u>	
	1.5	000 0 0 111	<u> Aero</u>		7 00	80.94	300.00	100.00	0	0	
-7 8	42	G&C Section	647.		1,02	ω.94	100.00	100.00		<u>-</u>	
9			Silo								
	Ti Li	3rd Stage Engine	Aero		18.64	97.41	106.52	111.47	0	.003	
1.1		Ji u o cago Diigino	Silo	.43	10.01	94.95	110.30	117.70	0	0	
12			Aero	.80		94.95	110.30	117.70	0_	Ö	
13			Base	.20		131:00	100.00	100.00	0	0	
	45	Interstage 2-3		•=-	119.30	59.97	100.27	101.44	.010	.006	
15		(Fwd)	_Silo								
16			Aero								
17			Base	2.81		57 • 33	107.51	108.65	0	0	
18			- Silo	1.92		61.11	101.01	101.74	0	0	
19		Jettisoned	Aero	3,40		61.59	100.27	100.47	0	0	
20		Portion	Base								
<u>21 </u>	ļ	L	- Jett	86.66		61.97	99.14		.008	.005	
	45	Interstage 2-3		<u> </u>	63.48	80.64	99.30		.006	.003	
23_	-	(Aft)	<u> </u>	1.18		80.97	100.50	100.84	<u> </u>	<u> </u>	
24	1.6		Aero	1.18		82.00	103.07	105.23	0	0	
<u> 25</u>	40	2nd Stage Engine			32,28	145.29	105.93	110.32	.001	.018	
26. 27.	-		Silo	.63		99,62	112.30	121.20	ŏ	, <u>o</u>	
27 28	-		Acro Base	.53 1.80		99.62	112.30	121.20	0	0	
	42	Interstage 1-2	Dase	1.00	243.98	189.25 67.38	100.00 99.43	100.00	0	0	
30	1.4	(Fwd)	Silo	 	243.90	01.30	99.43	101.53	.032	.022	
31	_	3.747	Aero								
32			Base	3.10		64.06	112.35	115.53	0	0	
33			- Silo	4.21		66.61	100.32	100.55	.001	0	
34		Jettisoned	Aero	7.56		66.87	100.10	100.17	.001	.001	
35.		Portion	Base	5.40		67.09	100.27	100.76	.001	0	
36_		L	- Jett	199.21		68.89	20.22	3.00.97	.028	.018	
	147	Interstage 1-2			129.57	95.61	100.76	99,76	.024	.014	
<u> 38</u>	 -	(Aft)	Silo	3.37 3.41		96.69			.001	0	
<u> 39</u>	1.0	1-4 (4 77	Acro	3.41		97,71	101.98		.001	0	
	140	lot Stage Engine	643-	0.00	62.93	223,37	110.34		.004	.115	
42 41	-		Silo	2.89		190.41	111.84	120.45	0	.004	
43	-		Aero Base	1.04		136.60			0	.001	
	140	Skirt	กลดด	4.80	201 20	309.40	100.00	100.00	0	0	
45	1-2		Silo	17.57	291.32	68.57 68.02	100.74		.064	.039	
16			Aero	3.33		67.80	100.35		.004	.002 0	
42			Base	40.60		69.10	101.70		.001	.006	
48		MISSILE			962.52	370.10					
49		,	Silo	32.20	2000 16						
50			Aero	21.25							
51			Base	58.71							
52			Jett	285.87							

* Bocing Section Stations (See Missile Station Diagram)
2-5550-0-58

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3.	•	MISSILE NO. 679 WEIGHT AND BALAN MAJOR COMPONENTS				REPORT DATE	. NO.			
LEE	•			EXPENDED	TOTAL	CENTER	OF GRAV	/ITY	INER SLUG FI	
17	SES	DESCRIPTION	DATA	WEIGHT (LB)	WEIGHT (LB)	LONG.*	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2			Silo							
3			Aero							
4	39	CTLI Section								
5			Silo							
6			_Aero_			00.01	300.00	700.00		
7	42	G&C Section			1.02	80.94	100.00	100.00		
8	-		Silo							
12	1.1.	3rd Stage Engine	Aero		18.64	97.41	106.52	111.47	0	.003
11	1114	ord Stage Engine	Silo	.43	10.04	94.95	110.30	117.70	0	0
12	-		Aero	.80		94.95	110.30	117.70	0	0
13	-		Base	.20		131:00	100.00	100.00	Ö	Ŏ
	45	Interstage 2-3	~~~		119.03	59.95	100.18	101.60	.010	.006
15		(Fwd)	Silo							
16			Aero							
12			Base	2.81		57.33	107.51	108.65	0	0
18			- Silo	1.92		61.11	101.01	101.74	0	0
19	<u> </u>	Jettisoned /	Aero	3.40		61.59	100.27	100.47	0	0
20	<u> </u>	Portion	Base							
21	 	L	- Jett	86.39		61.94	99.02	100.80	.008	.005
	45	Interstage 2-3			63,30	80.64	99.30	101.39	.006	.003
23	 	(Aft)	<u></u>	1.18		80.97	100.50	100.84	<u> </u>	<u> </u>
24		2-1 64 10	Aero	1.18	20.76	82.00	103.07	105.23	0	0
25 26	140	2nd Stage Engine	Silo	.63	32.16	145.11 99.62	105.96 112.30	110.36 121.20	.001	.018
27	-		Acro	.53	<u> </u>	99.62	112.30	121.20	0	0
28	1		Base	1.80		189.25	100.00	100.00	0	0
	47	Interstage 1-2	Dase		243,19	67.48	99,59	101.40	.032	.022
30	1	(Fwd)	Silo			VI-TV		10.50	• • • • •	
31			Aero				··			
32			Base	3.10		64.06	112.35	115.53	0	0
33	1		- Silo	4.21		66.61	100.32	100.55	.001	0
34		Jettisoned	Aero	7.56		66.87	100.10	100.17	.001	.001
35.	-	Portion	Base	5.40		67.09	100.27	100.76	.001	0
36	1.5	7.4	- Jett	198.42	100 1=	<u> </u>			.028	.018
38	147	Interstage 1-2	C43 -	2 277	129.11	95.61			.024	.014
39		(Aft)	Silo Aero	3.37 3.41	ļ ———	96.69 97.71	100.34		.001	0
		lot Stage Engine		1	63.15				.001 .004	.115
亞			Silo	2.89	<u> </u>	120.41	111.84	120.45	0	.004
42			Aero	1.04		136.60	117.20	129.70	Ö	.001
43			Base	4.80		309.40	100.00		Ö	0
44	49	Skirt			292.22	68.43			.064	.039
45			Silo	17.57		68.02	100.35	100.60	.004	.002
1.6		ļ	Aero	3.33		67.80	100.64	101.12	.001	0
42			Base	40.60		69.10	101.70	102.76	.009	.006
48		MISSILE			961.62	 		ļ	ļ	
10		· · · · · · · · · · · · · · · · · · ·	Silo	32.20		 	ļ			
50			Aero	21.25	ļ	ļ	<u> </u>			
51	-		Base	58.71				ļ		
52		Pandau Continu Ci	Jett	284.81	<u> </u>	<u> </u>	L	<u></u>	L	

* Eocing Section Stations (See Missile Station Diagram)
2-5550-0-58

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3.2	1	Missile no. 681 Weight and Balan Major components				REPORT DATE	NO			
LLIE	3	DESCRIPTION		EXPENDED WEIGHT	TOTAL WEIGHT		OF GRAV	ITY		RTIA T2x10-3
	10		DATA	(LB)	(LB)	LONG.*	LAT.	VERT.	ROLL	PITCH
_	41	RV Spacer								
2	_		Silo	ļ						<u> </u>
3			Acro							ļ
	39	CTLI Section								
5	-		<u>Silo</u>							
6	1.3	C2C Cantilan	_Aero_		1.02	80.94	100.00	100.00	0	0
8	42	G&C Section	Silo		1.02	W.34	200.00	200.00		<u> </u>
9			Aero							
	1,1,1	3rd Stage Engine	Xero		18.69	97.50	106.50	111.44	0	.003
		7. 4 5 tags 2Ae	Silo	.43		94.95	110.30	117.70	0	0
12			Aero	.80		94.95	110.30		0	0
13			Base	.20		131:00	100.00	100.00	O	0
14	45				119.06	59.84	100.27	101.50	.010	.006
15		(Fwd)	Silo							
16			Aero							
17			Base	2.81		57.33	107.51	108.65	0	0
18			- Silo	1.92		61.11	101.01	101.74	0	0
19	-	Jettisoned	<u>Aero</u>	3.40	<u> </u>	61.59	100.27	100.47	0	0
20	-	Portion	Base	86.42		67.70	00.33	100.67	.008	.005
<u>21</u>	1,0	T-4	- Jett	66.42	63,32	61.79 80.64	99.13 99.30	101.39	.006	.003
۶4. 23.	142	Interstage 2-3 (Aft)	Silo	1.18	03, 36	80.97	100.50	100.84	0	0
24		7077	Aero	1.18		82.00	103.07	105.23	 	1 0
	46	2nd Stage Engine	- NEAU		32.57	145.71	105.88	110.23	.001	.018
26			Silo	.63		99.62	112.30	121.20	0	0
27.			Acro	.53		99.62	112.30	121.20	0	0
<u> 28</u>			Base	1.80		189.25	100.00	100.00	0	- 0
29.	47	Interstage 1-2			244.67	67.59	99.55	101.47	.032	.022
<u> </u>	_	(Fwd)	Silo							
31	—	ļ	Aero	ļ		- 21 - 2			ļ,	
<u>32</u>	┼		Base	3.10		64.06			0	<u> </u>
33 34	┼─	Tabbe	- Silo	4.21	 	66.61 66.87	100.32		.001	0
35.	+	Jettisoned Portion	_Aero_ _Base_	7.56 5.40	 	67.09	100.10	100.17	.001	001
33. 36	-	- FORMON	base_ _ Jett	199.90	 	69.14	98.66		.028	.018
32	47			127.70	129.98	96.61	100.76		.024	.014
38	1	(Aft)	Silo	3.37	1	96.69			.001	0
39			Aero	3.37 3.41		97.71	101.98		.001	0
		lot Stage Engine			63.23	223.83	110.30	117.47	.004	.115
+1		ļ	Silo	2.89		190.41			0	.004
42			Aero	1.04	 	136.60			0	.001
43			Base	4.80		309.40		100.00	0	0
		Skirt	645	10 00	290.12			101.11	.064	.039
45 46			S110	17.57	 	68.02	100.35	100.60	.004	.002
42		 	Aero Base	3.33	 	67.80 69.10		101.12	.001	.006
48		MISSILE	Dane	1	962.66		1 22.10	1202.10	1	1
49			Silo	32.20	706.00		 			
50			Aero	21.25	1		 	 	 	1
51			Base	58.71	 	 		 		
52	1		Jett	286.32		1	 		1	1

* Boeing Section Stations (See Missile Station Diagram)
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٠.		MISSILE NO. 683 WEIGHT AND BALAN MAJOR COMPONENTS				REPORT DATE	r no.			
LINE	$\ddot{3}$	DESCRIPTION		EXPENDED WEIGHT	TOTAL WEIGHT		R OF GRA	YTT	INE SLUG F	RTIA T2x10-3
7	S	32001122 22011	2/12/1	(LB)	(LB)	LONG.*	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacor								
_2			Silo							
3	- 0		Aero							
4	29	CTLI Section	047.							
5 6	-		Silo Aero							
7	42	G&C Section	Nero		1.02	80.94	100.00	100.00	0	0
8		3.3.3.3.3.3.	Silo							
9			Aero							
r	44	3rd Stage Engine			18.69	97.50	106.50	111.44	0	.003
11			Silo	.43		94.95	110.30	117.70	0	0
12.			Aero	.80		94.95	110.30	117.70	<u> </u>	0
13), é	Interests 2 7	Base	.20	118.82	131:00 59.68	100.00	100.00 101.22	0	006
15	72	Interstage 2-3 (Fwd)	Silo		110.02	79.00	100.61	101.66	.010	.006
16	-		Aero	 					· · · · · · · · · · · · · · · · · · ·	
17			Base	2.81		57.33	107.51	108.65	0	0
18			- Silo	1.92		61.11	101.01	101.74	0	0
19		Jettisoned	Aero	3,40		61.59	100.27	100.47	0	0
20		Portion	Base							
21			- Jett	86.18		61.58	99.14	100.27	.008	.005
22	45	Interstage 2-3		 	63,16	8.64	99.30	101.39	.006	.003
23		(Aft)	<u>\$110</u>	1.18 1.18		80.97	100.50	100.84	0	0
	46	2nd Stage Engine	Aero	1.10	32.6L	82.00 145.81	103.07	105.23	.001	.018
26	130	TIM DOUGH THE THE	Silo	.63		99.62	112.30	121.20	0	010
27			Aero	.53		99.62	112.30	121.20	ŏ	0
28			Base	1.80		189.25	100.00	100.00	0	0
,	42	Interstage 1-2			244.61	67.42	99.69	101.47	.032	.022
30	<u> </u>	(Fwd)	Silo				,			
31	-		Aero	<u> </u>					,	
32			Base	3.10		64.06	112.35	115.53		
33 34	-		- Silo	4.21 7.56		66.61 66.87	100.32	100.55	.001	0
35.	 	Jettisoned Portion	⊥Aero_ Base	5.40		67.09	100.10	100.17	-001	-001
36		L	- Jett	199.84		65.93	98.82	1.00.89	.001	.018
	47				129.94	96.61	100.76	99.76	.024	.014
38		(Aft)	Silo	3.37		96.69	100.34		.001	0
39			Aero	3.41		97.71	101.98	103.41	.001	0
	148	let Stage Engine		<u></u>	63.94	224.88	110.18	117.28	.004	.115
113	-		Silo	2.89	ļ	190.41	111.84	120.45	0	.004
42			Aero Base	1.04	 	136.60	117.20	129.70	0	.001
		Skirt	พสถุล	 4.ω	290.67	309.40 68.46	100.00	100.00	.064	0 0 0
45			Silo	17.57	E20.01	68.02	100.69	101.15	.004	.039
46			Aero	3.33		67.80	100.64	101.12	.004	0
1:2			Base	140.60		69.10	101.70	102.76	.009	.006
48		MISSILE			963.49					
49	 	·	Silo	32.20						
50	-		Aero	21.25	ļ					
51	-		Base	58.71	ļ — — —					
52		Boeing Section St	Jett	286.02	<u> </u>	<u> </u>		L	<u> </u>	

* Bocing Section Stations (See Missile Station Diagram)
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٠.		MISSILE NO. 686 WEIGHT AND BALAN	CE SUMM	ARY		REPONT DATE	e no.			
(i)	83	MAJOR COMPONENTS		EXPENDED	TOTAL		R OF GRA	/ITY		RTIA
LUE	3.2	DESCRIPTION	DATA	WEIGHT (LB)	WEIGHT (LB)	LONG.*	LAT.	VERT.	ROLL	r2x10-3
1	41	RV Spacer								
2			Silo			····				
3			Acro							
4	39	CTLI Section								
5			Silo							
		20.2.2	<u>Aero</u>		1 00	80.94	100.00	700.00	0	0
78	145	G&C Section	7/3.	ļ	1.02	€0.94	100.00	100.00		
9	-		Silo Aero							-
.0 .0	44	3rd Stage Engine	AGIO		18.57	97.27	106.54	111.51	0	.003
1	<u> </u>)	Silo	.43	44.71	94.95	110.30	117.70	0	0
. 2			Aero	.80		94.95	110.30	117.70	0	0
3			Base	.20		131:00	100.00	100.00	0	0
4	45				119.54	59.90	100.34	101.49	.010	.006
5	<u> </u>	(Fwd)	Silo	ļ						}
6	-		Aero	0.05		F67 55	307 53	200 65		
.7. 8			Base	2.81		57.33 61.11	107.51	108.65	0	- 0
9	┼─	Jettisoned	- Silo Aero	3.40		61.59	100.27	100.47	0	
20	 	Portion	Base	3.40		01.79	100.51	100.71		
21		t	- Jett	86.90		61.87	99.23	100.65	.008	.005
22	45	Interstage 2-3		1 20.70	63.64	80.64	99.30	101.39	.006	.003
23		(Aft)	Silo	1.18		80.97	100.50	100.84	0	0
<u> 1</u>			Aero	1.18		82.00	103.07	105.23	0	0
25	146	2nd Stage Engine			32.60	145.76	105.88	110.22	.001	.018
26	-		_Silo_	-63		99,62	112.30	121.20		0
27. 28	-		_Acro_	.53		99.62	112.30	121.20	0	0
	42	Interstage 1-2	Base	1.80	0):2 00	189.25	100.00	100.00	0	0
30		(Fwd)	Silo	 	241.92	67.57	99.47	101.77	.032	.022
<u>/</u>	†	3. 447	Aero	 			<u> </u>			
32			Base	3.10		64.06	112.35	115.53	0	0
53			Silo	4.21		66.61	100.32	100.55	.001	0
14	_	Jettisoned	Aero	7.56		66.87	100.10	100.17	.001	.001
55		Portion	Base	5.40		67.09	100.27	100.76	.001	0
7	 -		- Jett	197.15		69.13	70.75	سرک سند سند سا	.028	.018
38	42				128.38				.024	.014
59		(Aft)	Silo	3.37 3.41	<u> </u>	96.69			.001	
		lat Stage Engine	Acro	1-3.44	63.35	97.71 224.01	101.98		.001	.115
įΊ		1110	Silo	2.89	23.35	190.41	111.84		.004	.004
2			Aero	1.04		136.60	117.20	129.70	0	.001
3			Base	4.80		309.40		100.00	ö	0
14		Skirt			287.97				.064	.039
5	-		Silo	17.57		68.02	100.35	100.60	.004	.002
16			Aero	3.33		67.80	100.64	101.12	.001	0
2	+-	MICCIA	Вале	40.60	1	69.10	101.70	102.76	.009	.006
18		MISSILE		20.00	956,99	ļ				
9			Silo	32.20	 			ļ		
			Aero	21.25	ļ					ļ
21 22			Base	58.71 284.05		<u> </u>		 		
-		Boeing Section St	Jett		<u> </u>	<u> </u>	ـــــ	L	L	

* Bocing Section Stations (See Missile Station Diagram)
2-5550-0-58

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٠٠.	13	MISSILE NO. 687 WEIGHT AND BALAI MAJOR COMPONENTS	NCE SUM		. •	REPOR!	r no.			
LINE	SEC.	DESCRIPTION	DATA	0000231 EXPENDED WEIGHT	WEIGHT		R OF GRA	VITY	INE SLUG F	RTIA T2x10-3
-	_			(LB)	(LB)	LONG.*	LAT.	VERT.	ROLL	PITCH
		RV Spacor								ļ
2	-		Silo	 			<u></u>			ļ
	30	CTLI Section	Acro	 						
5	22	OTHI SACCION	Silo	 						
6	İ		Aero							
		G&C Section			1.02	80.94	100.00	100.00	0	. 0
8			Silo							
9			Aero							
	144	3rd Stage Engine			18.65		106.52	111.46	0	.003
11			Silo	.43		94.95	110.30	117.70		0
12			Aero	.80		94.95	110.30	117.70	0	<u> </u>
13		Interstage 2-3	Base	.20	119.48	131:00 59.85	100.00	100.00	0	0
15	1	(Fwd)	Silo		119.40	59.05	100.24	101.40	.010	.006
16		1	Aero							
17			Base	2.81		57.33	107.51	108.65	0	0
18			- Silo	1.92		61.11	101.01	101.74	0	0
19		Jettisoned	Aero	3,40		61.59	100.27	100.47	0	0
20	_	Portion	Base	0.2.0						
<u>21</u>	1.5	<u> </u>	- Jett	86.84		61.80	99.10	100.61	.008	.005
	42	Interstage 2-3	643		63.60	80.64	99.30	101.39	.006	.003
23 24	_	(Aft)	Silo Aero	1.18		60.97 82.00	100.50	100.84		8
		2nd Stage Engine	Velo	1.10	32.47	145.57	103.07	105.23		.018
26		- 14 14 14 14 14 14 14 14 14 14 14 14 14	Silo	.63	75.71	99.62	112.30	110.26	.001	.010
27_	<u></u>		Acro	.53		99.62	112.30	121.20	ŏ	ő
₹8			Base	1.80		189.25	100.00	100.00	. 0	0
	47				245.59	67.50	99.63	101.54	.032	.022
<u>30</u>	├	(Fwd)	Silo							
31	 		Aero							
<u>32</u> 33	-		Base	3.10		64.06	112.35	115.53	0	0
22 34	-	Jettisoned	- Silo Aero	4.21 7.56		66.61 66.87	100.32	100.55	.001	0
35.		Portion	Base	5.40		67.09	100.10	100.17	.001	-001
36.		L L	- Jett	200.82		69.03		100.10	.028	.018
37_	47	Interstage 1-2			130.51	95.61	100.76	99.76	.024	.014
<u>38</u>	 	(Aft)	Silo	3.37 3.41		96.69	100.34		.001	0
39 10	1, 0	1-4 C4 E	Acro	3.41		97.71	101.98	103.41	.001	0
10.	120	1st Stage Engine	641-	0 00	63.54	224.29	110.24	117.38	.004	.115
42	-		Silo Aero	2.89		190.41	111.84	120.45	0	.004
+3			Base	4.80		136.60 309.40	117.20	129.70	<u> </u>	.001
		Skirt			287.62	_68.36	100.00	100.00	.064	030
+5			Silo	17.57	5VI • US	68.02	100.35	100.60	.004	.039 .002
<u>±5.</u>			Aero	3.33		67.80	100.64	101.12	.001	0
12			Base	140.60		69.10	101.70	102.76	.009	.006
8		MISSILE			962.48					
19			_Silo_	32.20						
Q	-		Aero	21.25						
<u>)</u>	-		Base	58.71						
2		ocing Section St	<u>Jett</u>	287.66	لـــــــــــــــــــــــــــــــــــــ		<u>.</u>			

** Booing Section Stations (See Missife Station Diagram)
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3	1.4	MEAN WEIGHT CO	MPONENT	S**		REPORT DATE	. NO.			
LINE	SEC.	(APPLICABLE TO		EXPENDED	TOTAL		OF GRAV	ITY	'INE	RTIA T2x10-3
H	S	DESCRIPTION	DATA	WEIGHT (LB)	WEIGHT (LB)	LONG.*	LAT.	VERT.	ROLL	PITCH
1	41	RV Spacer								
2			Silo							
_3			Aero							
	39	CTLI Section								
5			Silo							
6	7. 5	0000	_Aero_		1.02	80.94	100.00	100.00		
8	42	G&C Section	C43.		1.02	00.94	100.00	100.00		
0			Silo Aero							
	LL	3rd Stage Engine	Aero		12.71	80.65	109.56	116.82		
11	1	Ji di Dedigo Dinganio	Silo	 	<u></u>	00.07	107.70	440104		
12			Aero							
13			Base							
	45	Interstage 2-3			18.57	59.49	105.24	107.52		
15		(Fwd)	Silo							ļl
116			Aero							
17			Base							
18			- Silo							
19		Jettisoned	Aero							1
20		Portion	Base							
21	-		- Jett	7.68	<u>'</u>	61.44	100.06	103.80		
22	45	Interstage 2-3			7.61	80.79	98.29	96.54		
23	├	(Aft)	Silo	 						
25	116	2nd Stage Engine	Aero	 	16.89	102.11	111.34	119.73		
26	70	Sug 2 take suktue	Silo	 	10.09	102.11	777.	119.13		
27	-		Aero	 						
28	1	······································	Base	 						
	47	Interstage 1-2			22.14	66.13	105.62	111.67		
30		(Fwd)	Silo				,			
31			Aero						,	
32			Base							
33	<u> </u>		- Silo							
34	ـــ	Jettisoned	Aero	 						ļ
35.	+-	Portion	Base		 	20 55	06.50	700 60	ļ	
136	1.0	Interstage 1-2 (Aft)	- Jett	9.35	8.56	68.33	100 69	109.60 97.51	<u> </u>	
兴	17/	(Aft)	Silo	 	0.50	71.01	100.00	71.51		
岩	+-	/ /vir/	Aero	 	 	 			 	
40	48	1st Stage Engine	ACLU	 	38.09	161.19	117.09	1.29.00		
41	T-*		Silo		1.09					<u> </u>
41			Aero		 					
11.7	1		Base							
44	49	Skirt			14.47	62.87	106.84	110.70		
45			Silo							
46	+	ļ	Aero	ļ		ļ				
47	-	WTGGTIP.	Base	 	21/2 25					
40	┼	MISSILE		 	140.06			ļ		
49	┼		Silo	 	 		 		 	
120	+-	Skirt	Aero	 	 	 	 	 	ļ	
124	+		Base Jett	 	 	 	 	 		
124	1		uett	1	I	1	I	ı		

* Boeing Section Stations (See Missile Diagram)
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** See page 23 for details of these items;

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(DATE)		-	4ISSILE	NCH DIE SILE NEIGHED	EN IN	1				Ŧ		1			T		1	1	F		1	\prod	-			1	-	1
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OF C		+	COMPONENT	HED	MEI	+	+	H	+	+	H	+	+		+	+		+	+	H	+	+	+	-		\dashv	+	+
PECOSD		+	"	TH	NEIC BV2	+	\dagger	H	\dashv	\dagger	+	+	+	H	+	-	H	+	\dagger	$\dagger \dagger$	\dagger	\dagger	+		H	+	+	+
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			NO. 21-	.0N	X ARM								TORNATION		1													
	CK LIST		C DRAWING.	MISSILE N COMPONENT PART	WEIGHT								49 ARE 10															
	WEIGHING CHI		FINAL ASSEMBLY DRAWING NO. 21-50150-4	COMPO	PART NO.					1		-		THROUGH 26.														فعيد
	SUMMARY MISSILE WEIGHING CHECK LIST		HODEL WS-132A F	N All	LION								SUMMARY CHECK LISTS FOR SECTIONS 42 THRO	FOUND IN D2-13946-3 PAGES 20 TH														
	7,0		MOI	SECTION -	DESCF								SUPPARK C	OUND IN														
	ON JST 1 JJEHO	The second		MISSIL									L	H												•		·
	CHENT	3	DATE	иливев	ITEM		1	T		\prod	•					1			1	1				T				

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The following ECP's have not been incorporated into "Model Specification, Guided Missile Main Assemblage (S-133-1000-0-1)" dated 25 October 1962. However, the mass properties of these ECP's have been incorporated into this report unless otherwise noted. ECP's applicable to the CTLI components will be found in D2-13943-2, "Flight Article Mass Properties for CTLI Installations".

		t		
ECP NO. (WS-133A-BO-)	ECP TITLE	'STAGE	WEIGHT CHANGE	WEIGHT CHANGE INCORPORATED IN THIS REPORT
369	Revision to Incorporate Blast Tubes in Second Stage Wing II Engines	2	•	Yes
540	Potting and Bonding Deletion for Vandenberg Air Force Base Missiles, Phase II	1,2,3	-	No*

U3 4288 2000 REV. 8/62

2-5142-2

DOGINO	NO.	D2-13946	-4		
	SEC	Τ.	PAGE	O)ı	

^{*} ECP 540 postpones the potting of certain components on scheduled CTLI missiles until final installation at Vandenberg Air Force Base. Since the potting is considered part of the operational weight, its mass properties are still included in this report even though it will be applied at VAFB.

ER: 0000199 6.1.1 ACTUAL WEIGHT RECORD - INTERSTAGE 2-3	ADCN 6 CHECK LIST NO. 5 ADCN 6 CHECK LIST NO. 5 CHECKED BY HC.	(FIGURE I) By A2	A1 R2 R3 NOE DAF	ERETER I	LONGITUDE RATE TO SEA T	VERTICAL REFERENCE DA	REACTION GR. WT. TARE CORR. NET WIL REACTION GR. WI. TARE CORR. NET WI. DIM. INCHES DIM, INCHES DIM, INCHES	84.55 41.00 43.55 R5 95.40 40.80 54.60	R7 100.75 40.65 60.10 B3 88.351 Z3 100.000 Y3 127.	134.00 95.00 39.00 R8 40.80 21.10 19.70 E4 88.351	[271.35] 157.50 TOTAL 283.95 126.45 157.50 G	DIWAL C.G. LATERAL C.G. VERTICAL C.G.	TON NET WE. ARE MONEYE REACTION NET WE ARM MONEYE REACTION NET WE	43.55 47.343 R5 54.60[100.000 R5 54.60]	37.35 47.354 R6 23.10 72.501 R6 23.10	R3 37.60 88.352 R7 (5.101103.000 R7 (50.10 127.453 R8 19.70 127.459 R8 19.70 127.459 R8 19.70 170.012 R8 19.70 170 170.012 R8 19.70 170 170 170 170 170 170 170 170 170 1	₩GD 157.50 67.29 10,598.1 AS ₩GD 157.50 95	
SES.	S I I S						REAC				2		REA		**		AS.	

BOEING D2-13946-4 25

ŀΉ	Fig "A" lumber:	er: 6501		ŭ	Serial Number:		0000199						
								8	RECORD OF CHECK ING	F CHE	CK INC	, (DAT	
CHES	CHECK LIST NO.	6.1.1	MISS	MISSILE WEIGHING CHECK LIST	HECK LIST			윌	m 		1	+	П
	5							Day			+	\dashv	П
2000		Money 118-133		CZ (CZ - CZ ON DNAWING NO ASSESSMENT AND ASSESSMENT ASS	LY DOAWTNG	NO.	50150	Yr	63		1	\dashv	╗
LA CALL	3/11/63	ł		THE PART OF					8	COMPONENT	TN		• ;
धउष्टा		SECTION 4.5			MISSILE NO.	NO. 655					SITE T TVED SITE		BE/
ion i	HISSIFE	MISSILE COMPONENTEODY SECTI	OII GUIDE	SECTION GUIDED MISSILE COMPONENT PART NO.	ONENT PART	NO. Noted	ced	1	3HT	аяне	BECE SUEN SUE	1	
MILI		DESCRIPTION	١.	PART NO.	WEIGHT	X ARM	X ARM	Z ARM	PZ MEI(BVZ	MET	VZ ZHI KEW	1	VDC1
	BODY SECTION ASSY	ON ASSY		25-36103-1					,		Н		П
	Intersta	Interstage Assy- Structural		25-36102-1					×				П
	Cork Ins	Cork Insulation Installation		25-37084-1					×			-	П
	Instr Ra	Instr Rack & Accelerometer		25-31659-4					×	_	1	-	
	Marking	Marking Instl- Section 45		25-30134-28					×		7	-	\neg
	. Cover- I	Cover- Insulating		29-24652-2					×		1	-	
	Cover- I	Cover- Insulating		29-25578-1					×		1	\dashv	\neg
	Cover- I	Cover- Insulating	(8)	29-23355-1	r	,			×		1	4	
	Cover- I	Cover- Insulating	(8)	29-23365-2					×		1	+	\exists
	Cover- I	Cover- Insulating	(2)	29-23365-3					×]	+	+	\neg
	Cover- I	Insulating	(4)	29-23365-4					×		+	4	П
		Insulating		29-23365-5					×		+	<u> </u>	T
	Cover- I	Insulating	(t)	29-23355-6					×		+	4	耳
	Seal- Fo	Forward	(2).	29-23674-1					×		+	+	7
	Door- Ac	Access, Ordnance	(3)	29-22673-3					×]	+	+	Т
	Closure Runel	1	nce	29-22672-2					×		+	+	
	Door- Access,	cess, Ignitor Stage II	П	29-22361-4					×		+	\dashv	7
	Closure		er Skirt	29-22081-5					×		+	+	T
	Door- Access,	cess, Detonator		26-11678-1					×		1	+	
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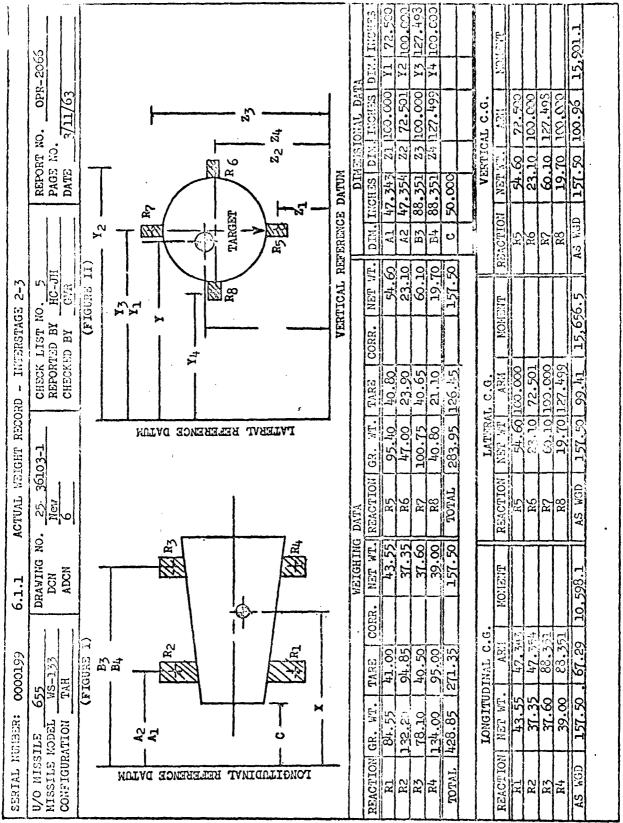
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MODEL	1	CONTRACTOR EDETRIC	CONTRACT NO.	AFO4 (694)-046	940-(RE DA	REPORT NO.	OPR-207 ⁴ 3/26/63	-	
SERI	COLL NO. SERIAL NO.		DRAWING NO.	25-36103-1 681	ri l	PR PR	PREPARED APPROVED	H. CHRISTIANSEN G. ROBERTS	STTANSEN RE	
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		REPORT NO. DATE	PREPARED APPROVED	WEIGHT AND BALANCE	¥	ARM	29.4 1				44.66						
		OPR-2076 3/22/63	R, ST, ROY G, ROBERTS	ANCE	AXIS	HOMENT	15,622.0				15,622.0						
t		50	ST. FOMATIN		2	ARM	100.98				100.98						
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ASSOCIATE CONTRACTOR FOELIG COMPONENT INTERSTAGE 2-3 MODEL NO. WS-1.33 SERIAL NO.

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Second	MODEL NO.	WS-133 0000211	DRAWING NO. U.O. MISSILE	25-36103-1 679	-1	PR PR	PREPARED APPROVED	R. ST. ROPAIN G. ROBERTS	OPAIN TIS	
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	2	WEIGHT AND BALANCE CHANGE RECORD	BALANCE CH	ANGE RE	CORD				
¥ 5	ASSOCIATE CONT	CONTRACTOR BOEING CONTRACT NO.	AFO4 (694)-046	940-(RE DA	REPORT NO. DATE		5	
	MODEL NO.		25-36103-1 683	-1	PR AP	PREPARED APPROVED	R. ST. ROMAIN G. ROBERTS	ROMATN RTS	
3		1			WEIGHT	AND BALANCE	LANCE		
INI'		EQUIPMENT CHANGE RECORD	WETCH!	×	AXIS	Ā	4	2	AXIS
Ī.	PART NO.	DESCRIPTION OF EQUIPME	WELCHA.	ARM	MOMENT	ARM	MOMENT	ARM	MOMENT
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2 "	25-36103-1	Body Section (As Weighed)	155.80	67.17	10,464.3	99.38	15,483.8	100.76	15,698.2
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नः	25-36103-1	Body Section (Complete)	155.80	67.17	10,464.3	99.38	15,483.8	100.76	15,698.2
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1		TIGHT AND BALANCE CHANGE RECORD	BALANCE CH	ANGE RE	CORD				
	1	CONTRACTOR EQELTIGE CONTRACT NO.	AFO4 (694)-046	9:10-(REPORT NO.	<u>OPR-2077</u> 3/27/63	7.	
ンエロ	COMPONENT MODEL NO. SERIAL NO.		25-36103-1 687	1-	PR W	PREPARED APPROVED	R. ST. ROMAIN G. ROBESTS	ROMAIN	
1 .		1 .			WEIGHT	WEIGHT AND BALANCE	LANCE		
INE		EQUIPMENT CHANGE RECORD	URTGHT	×	AXIS	Ĭ	AXIS		Z AXIS
7	PART NO.	DESCRIPTION OF EQUIPMENT	- HELGILL	ARM	MOMENT	ARM	MOMENT	ARM	MOMENT
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NK	25-36103-1	Body Section (As Weighed)	156.90	67.31	10,561.6	99.36	15,589.6	100.95	15,639.6
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37	25-36103-1	Body Section (Complete)	156.90	67.31	3,195,01	98.66	15,589.6	100.95	15,839.8
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1		WEIGHT AND BALANCE CHANGE RECORD	BALANCE CH	IANGE RE	CORD			·	
1 01 6	ASSOCIATE CONT	CONTRACTOR EQELIGE CONTRACT NO.	AFO4 (694)-01/5	5:10-(RE DA	REPORT NO.	OPR-2065 2/28/63	55 3	
〈얼艿	MODEL NO. SERIAL NO.		<u>25-36103-1</u> 653	-1	PR PP	PREPARED APPROVED	W. BAIRD G. ROBERTS	RDERTS	
		•			WEIGHT	WEIGHT AND BALANCE	LANCE		
INI'	•	EQUIPMENT CHANGE RECORD	уртсиф	×	AXIS	I	Y AXIS	2	Z AXIS
	PART NO.	DESCRIPTION OF EQUIPMENT	TIDIGE	ARM	MOMENT	ARM	MOMENT	ARM	MOMENT
H						30		2001	1 E 827 E
7 17	225-36103-1	Body Section (As Weighed)	156.85	67.41	10,573.6	28.32	0.175.51	17.001	12,051.7
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1	1125-36103-1	Body Section (Complete)	156.85	14.79	10,573.6	99.32	15,577.8	100.97	15,837.5
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ASSOCIATE CONTRACTOR FOCHER Exercise E				WEIGHT AND BALANCE CHANGE RECORD	BALANCE CH	ANGE REC	ORD				
Part No. 15-133 Praving No. 25-36103-1 Parpare H. Christophisms H. Christop	AS	1	EOETRIG TUTFERSTAGE	CONTRACT NO.	AFO4 (694	940-(RE	PORT NO. TE		2 53	
PART NO. DESCRIPTION OF EQUIPMENT ARM MONENT ARM MONEN	NOI SEI	DEL NO. RIAL NO.		DRAWING NO. U.O. MISSILE		(662)	PR PR	EPARED PROVED	H. CHEU	ISTIAIISE IRTS	
PART NO. DESCRIPTION OF EQUIPMENT ARM NOTIFY	2		1 -				WEIGHT		ANCE		
PART NO. DESCRIPTION OF EQUIPMENT ARM MOMENT ARM ARM ARM AR	INI'		•	•	тистап	×	AXIS	*	AXIS	Z	AXIS
25-36103-1 Body Section (As Weighted) 156.55 67.36 10,545.0 99.34 15,551.9 100.97 ADD: DEDUCT: 0 E5-36103-1 Body Section (Complete) 156.55 67.36 10,545.0 99.34 15,551.9 100.97	7	PART NO.	DESCRIPTION OF EQ	UIPMENT	TUDITAM	ARM	MOMENT	1 1	MOMENT	ARM	HOMENT
25-36103-1 Body Section (As Weigned) 120-25 01-30 401/77-0 27-37 27-27 2					72 726	70 47	ט פוופ טנ	16 00	וב בבו ס	700 001	15 806.1
ADD: DEDUCT: 0 DEDUCT: 25-36103-1 Body Section (Complete) 156.55 67.36 10,545.0 99.34 15,551.9 100.97	2 6	25-36103-1	7	guea)	120.22	0(.)0	40,747.0	77.37	-11/1/-	7	
### DEDUCT: DEDUCT:	4	3									
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25-36103-1 Body Section (Complete) 156.55 67.36 10,545.0 99.34 15,551.9 100.97	0										
25-36103-1 Body Section (Complete) 156.55 67.36 10,545.0 99.34 15,551.9 100.97	æ		DEDUCT:								
25-36103-1 Body Section (Complete) 156.55 67.36 10,545.0 99.34 15,551.9 100.97	6										
	31	25-36103-1		ste)	156.55	67.36	10,545.0	99.34	15,551.9	100.97	15,806.1
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	SERIAL NUMBER: 0000199 6.2.1 ACTUAL WEIGHT RECORD - INTERSTAGE	U/O MISSILE655DRAWING NO.25-36101-1CHECK LIST NO.MISSILE NODELXS-133DCNCREPORTED BYCONFIGURATIONTAHADCH14CHECKED BY	(FIGURE 1) B ₃ B ₄	ERENCE DATUM	AL REFERE	- c - C - C - C - C - C - C - C - C - C		WEIGHING DATA	223.85 127.80 66.05 B5 60.85 80 0 05	179.00 97.90 81.10 R6 166.75 55.75	198.45 110.90 87.55 R7 72.50 8.70	760.65 418.70 341.95 TOTAL 468.40 126.45	G.G. TAMENAT OF	NET WT. ARM HOMENT REACTION NET WT. APM	96.05 40.022 R5 60.90 100.000	01.10 49.0/0 R6 111.00	77.25 109.070 R8 106.070 R8 127	WGD 341.95 77.99 26,667.7 AS WGD 341.95 99.62	

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Serial Number: WEIGHING CHECK LIST NAL ASSEMBLY DRAWING NO.	SECTION GUIDED MISSILECOMPONENT PART NO. Noted	PART NO. WEIGHT X ARM.	22-30101-1 25-36100-1	25-36101-2	25-29544-1	29-23663-1	29-24180-1	26-11886-1	1-00011-02	29-28371-1	29-28391-1	29-23654-1	29-23074-2	25-36-38-1	25-30134-29	29-22725-1	BACB30EM-3-8		7-7-	4-6-	-3-3	-4-10	-4-19	-4-20	-41-9	-41-16	1 1-1-
CHECK LIST NO. CHECK LIST NO. 7 DATE HODEL WS-133 FI	SECTION 47 HISSILE COMPONENTBODY	E DESCRIPTION.		of, Insul	Shield-Time Delay, Booster	Plug-Access Hole	RIng	ונט	Door Access, Boster	Chosure Panel Ord. Access (1170)	Access	Cover Panel Tite (4)		Panel -Insulation	Marking Instl	Cover Recotacle	- 100 ^o Head	1002	Rolt - 1000 Head (6)	- 100 ⁰ Head	1000	- 100	- 1000	ı	•	Bolt - 1000 Head	Bolt - 100 Head

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r: 0000199 0. 21-50150 655 ARH Y AR	
MISSILE WEIGHING CHECK LIST FINAL ASSEMBLY DRAWING NO. 21-5015 MISSILE NO. 655 MISSILE NO. WEIGHT X ARM Y A [14] BACBROEM-P4-4 [16] BACBROEM-P4-4 [22] AN960-416L [63] NAS679-A4W [64] BAS 5-62	
CHECK LIST NO. T T T A 3-15-63 E HISSILS COMPONENT BODY SECTION E HISSILS COMPONENT BODY SECTION E BODY SECTION ASSY (CONTINUED) BODY SECTION Head Bolt - 1000 Head Nasher Nut Insulation Insulation Page 1000 Head 10	

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BOEING No. D2-13946-4

		WEIGHT AND BALANCE CHANGS RECORD	BALANCE CH	ANGS REX	CORD				
¥ 8	ASSOCIATE CONT COMPONENT	CONTRACTOR EQUATION CONTRACT NO. LITTERSTAGE 1-2 LOT NO.	AFO4 (694)-046	940-(RE	REPORT NO. DATE	3/15/6	70	
	MODEL NO. SERIAL NO.		25-36101-1 655	1	AP PR	PREPARED APPROVED	R. ST. ROM	ROMAIN	.
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	PART NO.	DESCRIPTION OF EQUIPMENT	THOTOM:	ARM	MOMENT	ARM	MOMENT	ARM	HOMENT
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2	25-36101-1	Body Section (As Weighed)	341.95	77.99	26,667.7	29.65	34,064.4	100.23	34,274.6
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	WEIGHT AND BALANCE CHANGE RECORD	BALANCE CH	ANGE RE	CORD				
L	CONTRACTOR	AFO4 (694)-046	940-(RE	REPORT NO.	OPR-2067	5	
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] 3	CONTOURNE CUANCE DECODE			WEIGHT	AND BALANCE	LANCE		
LIN	TOTAL TRUMP TOTAL	WEIGHT	X	AXIS	Y	⋖[2	AXIS
	PART NO. DESCRIPTION OF EQUIPMENT		ARM	MOMENT	ARM	MOMENT	ARM	MOMENT
7		343.20	78.07	26.795.0	99.55	34,164.6	100.23	34,398.3
3	25-30101-1 Body Section	JTJ:EV	10:01	277 62-	77.77			
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EDEING NO. D2-13946-4

			WEIGHT AND BALANCE CHANGE RECORD	BALANCE CH	ANGE REX	CORD				
ASS	ASSOCIATE CONT	CONTRACTOR BOEING	85	. AFO4 (694)-046	970-(1	REPORT NO.	. <u>OPR-2065</u> 3/18/63	3	
	MODEL NO.			25-36101-1		PR AP	PREPARED APPROVED	H. CHRISTI G. ROBERTS	H. CHRISTIANSEN G. ROBERTS	
20	LAL NO.	102000								
Æ	E.	EQUIPMENT CHANGE RECORD		,		WEIGHT	AND BA	LANCE		
ות	DA TOTAL	N OF	FOUTPMENT	WEIGHT	X MAY	AXIS	ARM	MOMENT	ARM Z	AXIS
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124	2 25-36101-1	tion (As Weighed)	339.65	78.06	26,512.8	29.77	33,888.0	100.32	34,073.3
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EDEING NO. D2-13946-4

L			WEIGHT AND BALANCE CHANGE RECORD	SALANCE CH	ANGE REC	ORD				
	ASSOCIATE CONT	CONTRACTOR FOSTING	CONTRACT NO.	AFO4(694)-046	970-1	1	REPORT NO.	. OPR-2070 3/21/63	ρχ	
	MODEL NO. SERIAL NO.	WS-133 0000202	DRAWING NO.	25-36101-1 669		A PR	PREPARED APPROVED	R. ST. ROMATH G. ROBERTS	ROMAIN	
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I	PART NO.	DESCRIPTION OF EQ	EQUIPMENT	Tupian	ARM	MOMENT	ARM	MOMENT	ARM	MOMENT
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	225-36101-1	Body Section (As Weighed)	(peug)	342.90	78.18	26,807.2	99.60	34,153.9	100.83	34,360.0
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27	125-36101-1	Body Section (Complete	ete)	342.90	78.18	26,807.2	99.60	34,153.9	100.20	34,360.0
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	WEIGHT AND BALANCE CHANGE RECORD	BALANCE CH	ANGE REX	SORD			,	
ASSOCIATE CONTRACTOR	DOETING CC	AFO4 (694)-046	9†0-(REPORT NO.	OPR-20[1]	n 3	
HODEL NO.		25-36101-1 674	-	AR PR	PREPARED APPROVED	T. VOGEL.	T. TRIES	
-	f			VEIGHT	AND BALANCE	ANCE		
INE	EQUIPMENT CHANGE RECORD	LIBITORIA	×	AXIS	×	<	2	AXIS
PART NO.	DESCRIPTION OF EQUIPMENT	#ELGn1	ARM	MOMENT	ARM	MOMENT	ABM	MOMENT
2 25-36101-1	Body Section (As Weighed)	342.05	27.30	26,645.5	93.60	34,067.5	100.28	34,299.7
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10 25 26 11	Rody Sertion (Complete)	342.05	77.90	26.645.5	8.60	34,067.5	100.28	34,299.7
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EDEING NO.D2-13946-4

		WEIGHT AND BALANCE CHANGE RECORD	BALANCE CH	ANGE: RE	CORD		1		
	ASSOCIATE CONT	CONTRACTOR EOFING CONTRACT NO. LITTERSTAGE 1-2 LOT NO.	AFO4 (694)-046	970-(RE	REPORT NO.	OPR-2072 3/21/63	01	
	MODEL NO. SERIAL NO.		25-36101-1 676	F	F 48	PREPARED APPROVED	H, CHRISTIANSEN G, ROBERTS	STTANSEN	
E		ENTIT CHANGE RECORD			WEIGHT	AND	BALANCE		
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	PART NO.	DESCRIPTION OF EQUIPMENT	W. C. C.	ARM	MOMENT	ARM	MOMENT	ARM	MOMENT
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"	225-36101-1	Body Section (As Weighed)	342.85	26.77	6.417,65	05.66	34,113.1	100.31	34,392.1
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ī	PART NO.	DESCRIPTION OF EQUIPMENT	WEST CHILL	ARM	MOMENT	ARM	MOMENT	ARM	MOMENT
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24	25-36101-1	Body Section (As Weighed)	343.95	78.07	26,852.8	99.59	34,254.8	100.26	34,484.2
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न	25-36101-1	Body Section (Complete)	343.95	78.07	26,852.8	99.59	34,254.8	100.20	34,484.2
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3 S S	MODEL NO. SERIAL NO.		DRAWING NO.	25-36101-1 686		P. P	PREPARED APPROVED	R. ST. ROMAIN G. ROBERTS	RCMA IN	
		AUNCH BOULTS MEETINGE				WEIGHT	AND BALANCE	LANCE	·	
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77	25-36101-1	Body Section (As Weighed		339.60	78.05	26,504.3	99.53	33,799.1	100.47	34,120.7
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न	25-36101-1	Body Section (Complete)		339.60	78.05	26,504.3	99.53	33,799.1	100.47	34,120.7
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AS	ASSOCIATE CONTRACTOR	BOETHG CO	AFO4 (694)-046)-0 ⁴ 6	1	REPORT NO.		.3	
	COMPONENT MODEL NO.	7-1-0	1 1	-1	X	PREPARED	H. CHRI	H. CHRISTIANSEN	
S	SERIAL NO.	0000211 U.O. MISSILE	629		₽	APPROVED	G. ROBERIS	RIS	
					VEIGHT	WEIGHT AND BALANCE	ANCE		
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Ī	PART NO.	DESCRIPTION OF EQUIPMENT		ARM	MOMENT	ARM	MOMENT	ARM	HOMENT
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7	25-36101-1	Body Section (As Weighed)	341.60	77.99	26,641.5	39.65	34.030.8	100.21	34.231.3
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VEIGHT	BOELIG Fraganspage 1-2		EQUIPMENT CHANGE RECORD	DESCRIPTION OF EQUIPMENT	Body Section (As Weighed)	ADD:		DEDUCT:		Body Section (Complete)																				. \
	ASSOCIATE CONTRACTOR	MODEL NO.	ENI.	PART NO.	225-76101-1	 2 2	2	8	01	11 25-36101-1	12	74	15	16	17	18	1.9	R	72	22	23	表	25	56	2	28	8	02	31	

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		* WEIGHT AND BALANCE CHANGE RECORD	BALANCE CH	ANGE RE	CORD				
	ASSOCIATE COI	CONTRACTOR BOEING CONTRACT NO. INTERSTAGE 1-2 LOT NO.	Aro4(694)-046) <u>-o</u> 46	2 70	REPORT NO. DATE		12 %	
	MODEL NO. SERIAL NO.		25-36101-1 687	-	E 2	PREPARED APPROVED	R. ST. ROMAIN G. ROBERTS	ROWATN	
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	225-36101-1	Body Section (As Weighed)	345.40	78.01	26,945.0	99.65	34.417.6	32	34,651.2
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គ:	1-10198-521	Body Section (Complete)	345.40	10.0	20,945.0	28.65	34,417.0	700.	7.10.4
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L		WEIGHT AND BALANCE CHANGE RECORD	BALANCE CH	ANGE RE	CNO				
	ASSOCIATE CONT	CONTRACTOR BOSING CONTRACT NO. INTERSTAGE 1-2 LOT NO.	AF 04(6 WING II	AF 04(694)-046 WING II		REPORT NO.	_ ⊆ 1001	-2065 -63	
~	Model no. Serial no.	DRAWING NO. O.O. MISSILE	25-36101-1 653	[-	æ & 	PREPARED	G. ROBERTS	RTS	.
1 3		WHIDHEND CHANCE DECORD			WEIGHT	WEIGHT AND BALANCE	ANCE		
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I	PART NO.	DESCRIPTION OF EQUIPMENT		ARM	MOMENT	ARH	MOMENT	ARK	HOHENT
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	1-10195-52	Rody Section (As Meighed)	340.60	77.96	26,553.4	99.63	33,933.5	100.31	34,167.1
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न	1-10192-52	Body Section (Complete)	340.60	77.90	26,555.4	99.65	22,422,22	10.WL	7.070.4
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		WEIGHT AND BALANCE CHANGE RECORD	BALANCE CH	ANGE RE	CORD	i			
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<u>~~~~</u>	MODEL NO. SERIAL NO.		25-36101-1 662		HA N	PREPARED APPROVED	H. CHRISTI G. ROBERTS	CHRISTIANSEN ROBERTS	
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2 10	25-36101-1	Body Section (As Weighed)	341.05	77.96	26,587.5	99.59	33,966.1	100.39	34,236.9
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molo8 6.3.1 ACTUAL WEIGHT RECORD - SKIRT	653 WS-133 DRAWING NO. 25-36080-1 TAH ADCN C ADCN P ADCN P ROTE: Views taken from top.	TOO TOO TO THE THE TOO TO THE TOO THE TOO TO THE TOO THE TOO TO THE TOO THE TOO TO THE TOO THE TOO TO THE TOO THE TOO TO THE TOO THE TOO TO THE TOO THE TOO TO THE TOO TO THE TOO TO THE TOO THE TOO TO THE TOO TO THE TOO	- WEIGHTHE DATA DATA	GR. VI. TARE CORR. VET WILL X ARM T ARM Z ARM DIM DECHES DIK THOMES DIK	140.10 64.10 76.00 52.353 15 2 53.352 15 63.752	136.253 77 1	151.10 56.70 89.854 1151.10	320.20 275.80	\vdash	120.50 73.05	00 13.70 67.30 136.229		2-12-3	
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ASSOCIATE CONTRACTOR 279275 CONTRACT NO. 120 CONTRACT NO. 12				WEIGHT AND BALANCE CHANGE RECORD	BALANCE CH	ANGE REC	ORD				
Part No. Control of the control	ASS	1		CONTRACT NO.	AP 04(6	940-(40	RE	PORT NO.	.	65	
PART NO. CONTUBER NEADORD WEIGHT ARM MONERY ARM NONERY ARM NONE	3 🖫	DEL NO.	NS-134	DRAWING NO.	25-3508	0-1	PR 4	EPARED	l I	1 130	
PARE NO. DESCRIPTION OF EQUIPMENT (AS MEIGHT AND EACH EACH AND EACH EACH EACH EACH EACH EACH EACH EACH	SE	RIAL NO.	361000	U.O. MISSILE	629		H.F.	FROVE	1 1	2	
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25-36080-1 Body Section (As Weighed) 275.80 68.75 18.961.7 100.42 27.695.9 100.57 ADD: DEDUCT: Dedy Section (Complete) 275.80 68.75 18.961.7 100.42 27.696.9 100.57 27-36080-1 Body Section (Complete) 275.80 68.75 18.961.7 100.42 27.696.9 100.57	<u>I</u>	PART NO.		EQUIPMENT	1110111	ARM	MOMENT	ARM	MOMENT	ARK	MOMENT
25-36080-1 Body Section (As Weighed) 275.80 68,75 18,961.7 100.42 27,605.9 100.57 ADD: DEDUCT: 0 DEDUCT:	c	4									
ADD: DEDUCT: 0 DEDUCT: 25-36080-1 Body Section (Complete) 275-80 68.75 18.961.7 100.42 27.696.9 100.57	27	5-36080-1	Section (ighed)	275.80	68.75	18,961.7	100.42	6.569,72	100.57	27.738.2
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, <u>, , ()</u>	MODEL NO. SERIAL NO.	39	0. <u>25-3665-1</u> fle 655	-1	PR AP	PREPARED APPROVED	R. ST. ROMAIN G. ROMERIS	CLAIN TS	
3		MILEMENT CHANGE DECORD			WEIGHT	AND BALANCE	ANCE		
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2	25-36080-1	Body Section (As Weighed)	275.50	68.77	18,946.0	100.48	27,651.4	100.50	27,000.5
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9.5	25-36080-1	Body Section (Complete)	275.50	68.77	18,946.0	100.48	27,681.4	100.50	21,686.5
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CT: Section (Complete) O Z76.65 68.78 19,024.9 100.65 27,845.3 130.47	25-36080-1		276.65	68.78	19,024.9	100.65	27,845.3	100.47	27,796.0
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رة تخري	CONFORMATION SERIAL NO.	WS-133 DRAVING NO. MISSILE DO000202	. 25-36280-1 E 667	30-1	PR	PREPARED APPROVED	H. CHRISTI G. ROBERTS	H. CHRISTIALISEN G. ROBERTS	<u></u>
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	2 25-36080-1	Body Section (As Weighed)	276.10	68.50	18,911.5	100.48	27,741.4	100.55	27,760.9.
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न	11 25-36080-1	Body Section (Complete)	276.10	68.50	18,911.5	300.48	27,721.4	100.55	27,760.9
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	ASSOCIATE CONTRACTOR	EOETWG	AFO4(694)-046	940-		REPORT NO.	OPR-2070	٥,,	
··	COMPONENT MODEL NO. SERIAL NO.	SETTE DEAT NO. WE-133 DRAWING NO. OCOCIO 133 U.O. MISSILE	25-36080-1 669		PR	PREPARED APPROVED	T. VOGEL G. ROBERTS	TTS	
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I	PART NO.	DESCRIPTION OF EQUIPMENT	TIDICIA	ARM	MOMENT	ARM	MOMENT	ARM	MOMENT
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Π'	225-36080-1	Rody Section (As Weighed)	274.25	68.77	18,859.9	10.38	27,529.2	100.66	27,606.8
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973	25-36080-1	Rody Section (Complete)	274.25	68.77	18,859.9	100.38	27,529.2	100,66	27,606.8
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13,	ASSOCIATE CONT	CONTRACTOR ROBERS CONTRACT NO.	AFO4 (694)-046	940-(REPORT NO.	3/18/63		
) # (Q	MODEL NO. SERIAL NO.	3	25-36080-1 676	-	PR AP	PREPARED APPROVED	H. CHRISTI C. ROBESTS	H. CHRISTIANSEN C. ROBESTS	
] [1 7			WEIGHT	AND	BALANCE		
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ı	PART NO.	DESCRIPTION OF EQUIPMENT	WELGILL	ARM	MOMENT	ARM	MOMENT	ARM	MOMENT
S K	2 25-36080-1	Body Section (As Weighed)	276.85	78.89	19,067.3	100.42	27,800.1	100.66	27,866.7
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4	25-36080-1	Body Section (Complete)	276.85	68.87	19,067.3	100.42	27,800.1	100.66	27,866.7
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BOEING NO. D2-13946-4

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40	ASSOCIATE CONT	CONTRACTOR EDETHQ CONTRACT NO.	AFO! (694):-046	340-1	1	REPORT NO.	OPR-2073 3/18/63	333	
دی ندر ر	MODEL NO. SERIAL NO.	3	25-36080-1		PR PR	PREPARED APPROVED	H. CHRISTI G. ROBERTS	CHRISTIANSEN ROBERTS	
		ANTENNESS MILITARY DESCRIPTION			WEIGHT	AND BALANCE	ANCE		
INI'		EQUIPMENT CHANGE RECORD	UETGHT	×	AXIS	Y	Y AXIS	2	Z AXIS
I	PART NO.	DESCRIPTION OF EQUIPMENT	MELCHIC	ARM	MOMENT	ARM	MOMENT	ARM	MOMENT
	5:								
אינט	225-36080-1	Body Section (As. Weighed)	2TT.T5	68.72	19,086.2	100.53	27,922.7	100.55	27,927.6
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<u>a:</u>	1,25-36080-1	Body Section (Complete)	(1)7	2) 00	7,000,41	50.007	C1:326:12	77.77	21176110
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L			WEIGHT AND BALANCE CHARGE RECORD	SALANCE CH	AHGE RE	CORD	<u> </u>	ł		
\ <u> </u>	ASSOCIATE CONTRACTOR	EOETHG	CONTRACT NO.	AFO4 (694)-045)-04.5		REPORT NO. DATE	OPR-20 75	33	
מצנ	MODEL NO. SERIAL NO.	WS-133 DR 0000212 U.	DRAWING NO.	25-36080-1 683	-	PR PR	PREPARED APPROVED	T. VOSEL G. ROBERTS	EL	
		ı				WEIGHT	AND BALANCE	ANCE		
INE		KULIPMENT CHANGE RECORD		matuan	×	AXIS	¥	Y AXIS	2	AXIS
7	PART NO.	DESCRIPTION OF EQUIPMENT	WENT	TIDIGIA	ARM	MOMENT	ARM	MOMENT	ARM	MOMENT
	4.			·				-	· ·	
24	2 25-36080-1	Body Section (As Weighed)	(pe	276.20	68.75	18,990.0	100.37	27,722.4	100.65	27,799.9
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7	25-36080-1	Body Section (Complete)		276.20	68.75	18,990.0	100.37	27,722,4 100,65	100.65	6.661.12
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3 8	ASSOCIATE CONTRACTOR	TRACTOR BOETHG CONTRACT NO.	AFO4 (60%) -0%)-045	RE PA	REPORT NO.	3/25/63	3	
 ≥ ₹ Ø	MODEL NO. SERIAL NO.	# H	25-36080-1	급	a av	PREPARED APPROVED	T. VOCEL	EL ERITS	
3		MINISTER AND AND AND ADDRESS OF THE PERSON O			WEIGHT	AND BALANCE	ANCE		·
INI		EQUIPMENT CHANGE RECORD	LIPTOUR	×	AXIS	X	Y AXIS	Z	AXIS
7	PART NO.	DESCRIPTION OF EQUIPMENT	METGUT	ARM	MOMENT	ARM	MOMENT	ARM	MOMENT
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2	2 25-36080-1	Body Section (As Weighed)	273.15	68.65	18,751.7	24.00L	2(,400.4	1000-21	5.55.7
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\∞		DEDUCT:	0		,				
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10			•	-			1,77		
7	25-360[0-1	Body Section (Complete)	273.15	08.05	18,751.7	100.55	27,466.4	100.21	2(,453.2
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BOEING NO. D2-13946-4

	WEIGHT AND BALANCE CHANGE RECORD	BALANCS C	HANGS R	SCORD				
ASSOCIATE CONTRACTOR COMPONENT MODEL NO. SERIAL NO.	EOSTING CONTRACT NO.	AFO4(694)-0:.5 25-36030-1 GEM-020)-0''0	B D D D D D D D D D D D D D D D D D D D	REPORT NO. DATE PREPARED APPROVED		R-2071 2/63 CHRISTIANSEN ROBERTS	
	EQUIPMENT CHANGE RECORD			WEIGHT	AND BALANCE	LANCE		
PART NO.	DESCRIPTION OF EDITIONAL	WEIGHT	×	٧L	Y	AXIS	2	13
2 <u> </u>			ARM	MOMENT	ARM	MOMENT	YEX	KOMENT.
2 25-36080-1	Body Section (As Weighed)	272.30	68.77	18,766.7	100.48	100,48 27,421.4	100.61	27,455.6
	4 TVD.							
	Aun:	0						
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25-36080-1	Body Section (Complete)	, 00 che	K8 777	18 766 9	0,1	1 20		
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6.4 BASE HEAT DEFLECTORS

Serial No.	25-37379-1	25-36378-1	25-36377-1
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0000200	5.94	15.63	25.04
0000201	5.82	15.49	25.11
0000202	5.98	15.38	25.65
0000203	5.93	15.63	25.16
0000204	5-93	15.39	24.84
0000205	5.98	15.68	25.14
0000206	5.86	15.71	25.26
0000211	5.93	15.27	25.06
0000212	5.98	15.75	25.85
0000231	5.94	15.58	25.45
0000917		15.42	25.07
0000918	5.89	15.54	24.99
0000919	5.89		· · · · ·

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